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EDUCATION

Ph.D., Program in Applied Mathematics , University of Arizona, Tucson, AZ, Oct. 1994

M.S., Program in Applied Mathematics, University of Arizona,Tucson, AZ, Dec. 1991

B.A. Magna Cum Laude, Math and Physics, St. Olaf College, Northfield, MN, May 1989

EMPLOYMENT

Staff Member, Theoretical Division, Los Alamos National Laboratory, Oct. 1997 - present

Postdoctoral Research Associate, Los Alamos National Laboratory, Oct. 1994 - Sep. 1997

DOE Computational Science Graduate Fellow, University of Arizona, Sep. 1992 - Aug. 1994

Graduate Research Assistant, Los Alamos National Laboratory, Jun. 1991 - Aug. 1992

Research Assistant, University of Arizona, Aug. 1990 - May 1991

RESEARCH INTERESTS

Nonlinear dynamics and pattern formation in nonequilibrium systems, front propagation and in reaction-diffusion equations, resonantly forced oscillatory systems, adaptive refinement algorithms for numerical solution of partial differential equations, commodity parallel Linux supercomputers

AWARDS AND ACADEMIC ACTIVITIES

Los Alamos Achievement Award for designing and building “Avalon”, 1998

Los Alamos Center for Nonlinear Studies Postdoc Award, 1997

DOE Computational Science Graduate Fellowship September 1992

Departmental Distinction, Mathematics, St. Olaf College, 1989

Los Alamos coordinator for DOE Computational Science Graduate Fellowship

Referee for *Physics Letters A*, *Physica D*, *Physical Review Letters*, *Physical Review E*

Member: Society for Industrial and Applied Mathematics

RESEARCH PAPERS

- [1] A. L. Lin, A. Hagberg, A. Ardelea, M. Bertram, H. L. Swinney, and E. Meron. Four-phase patterns in forced oscillatory systems. submitted to *Phys. Rev. E*, 2000.
- [2] Markus Bär, Aric Hagberg, Ehud Meron, and Uwe Thiele. Front propagation and pattern formation in anisotropic media. To appear in *Phys. Rev. E*, 2000.
- [3] Christian Elphick, Aric Hagberg, and Ehud Meron. Phase front solutions and instabilities in forced oscillations. To appear in Equadiff 99 Conference Proceedings, 2000.
- [4] Aric Hagberg, Ehud Meron, and Thierry Passot. Phase dynamics of nearly stationary patterns in activator-inhibitor systems. To appear in *Phys. Rev. E*, 2000.
- [5] Markus Bär, Aric Hagberg, Ehud Meron, and Uwe Thiele. Stratified spatiotemporal chaos in anisotropic reaction-diffusion systems. *Phys. Rev. Lett.*, 83:2664–2667, 1999.
- [6] Michael S. Warren, Aric Hagberg, J. David Moulton, David Neal, and John K. Salmon. Avalon: Champagne computing on a beer budget. Extended abstract, 1999.
- [7] Christian Elphick, Aric Hagberg, and Ehud Meron. Multiphase patterns in periodically forced oscillatory systems. *Phys. Rev. E*, 59(5):5285–5291, 1999.
- [8] Aric Hagberg and Ehud Meron. Order parameter equations for front transitions: Nonuniformly curved fronts. *Physica D*, 123:460, 1998.
- [9] Aric Hagberg and Ehud Meron. Propagation failure in excitable media. *Phys. Rev. E*, 57:299, 1998.
- [10] C. Elphick, A. Hagberg, and E. Meron. A phase front instability in periodically forced oscillatory systems. *Phys. Rev. Lett.*, 80(22):5007–5010, 1998.
- [11] Aric Hagberg and Ehud Meron. Kinematic equations for front motion and spiral-wave nucleation. *Physica A*, 249:118, 1998.
- [12] C. Elphick, A. Hagberg, E. Meron, and B. Malomed. On the origin of traveling pulses in bistable systems. *Phys. Lett. A*, 230:33–37, 1997.
- [13] A. Hagberg, E. Meron, I. Rubinstein, and B. Zaltzman. Order parameter equations for front transitions: Planar and circular fronts. *Phys. Rev. E*, 55(4):4450–4457, 1997.
- [14] Aric Hagberg and Ehud Meron. The dynamics of curved fronts: Beyond geometry. *Phys. Rev. Lett.*, 78(6):1166–1169, 1997.
- [15] Aric Hagberg and Ehud Meron. Oscillating reaction-diffusion spots. Technical report, Center for Nonlinear Studies, Los Alamos National Laboratory, 1996.
- [16] A. Hagberg, E. Meron, I. Rubinstein, and B. Zaltzman. Controlling domain patterns far from equilibrium. *Phys. Rev. Lett.*, 76:427–430, 1996.

- [17] Aric Hagberg and Ehud Meron. A mechanism for spatio-temporal disorder in bistable reaction-diffusion systems. *Nonlinear Science Today*, 1996. (<http://www.springer-ny.com/nst/>).
- [18] D. Haim, G. Li, Q. Ouyang, W. D. McCormick, H. L. Swinney, A. Hagberg, and E. Meron. Breathing spots in a reaction-diffusion system. *Phys. Rev. Lett.*, 77(1):190–193, July 1996.
- [19] C. Elphick, A. Hagberg, and E. Meron. Dynamic front transitions and spiral-vortex nucleation. *Phys. Rev. E*, 51(4):3052–3058, 1995.
- [20] Aric Hagberg and Ehud Meron. From labyrinthine patterns to spiral turbulence. *Phys. Rev. Lett.*, 72(15):2494, 1994.
- [21] A. Hagberg and E. Meron. Pattern formation in non-gradient reaction-diffusion systems: The effects of front bifurcations. *Nonlinearity*, 7:805–835, 1994.
- [22] A. Hagberg and E. Meron. Complex patterns in reaction-diffusion systems: a tale of two front instabilities. *Chaos*, 4(3):477–484, 1994.
- [23] Aric Hagberg and Ehud Meron. Domain walls in nonequilibrium systems and the emergence of persistent patterns. *Phys. Rev. E*, 48:705, 1993.
- [24] Yu. A. Rzhanov, H. Richardson, A. A. Hagberg, and J. V. Moloney. Spatio-temporal oscillations in a semiconductor etalon. *Phys. Rev. A*, 47(2):1480–1491, 1993.

INVITED PRESENTATIONS

Center for Nonlinear Dynamics, University of Texas at Austin, October 1999

SIAM Meeting on Dynamical Systems, Snowbird, UT, May 1999

Nonlinear Waves and Solitons in Physical Systems Meeting, Los Alamos, NM, May 1997

Instituto Nazionale di Ottica, Florence, Italy, April 1997

Max-Planck-Institute for Complex Systems Physics, Dresden, Germany, March 1996

Fritz-Haber-Institute, Berlin, Germany, March 1996

Workshop on Domain Walls Near and Far from Equilibrium,

J. Blaustein Institute for Desert Research, Sede Boker, Israel, February 1996

Institute for Nonlinear Science, University of California, San Diego, November 1995

Applied Math Colloquium, University of New Mexico, Albuquerque, NM, October 1995

Santa Fe Institute, Santa Fe, NM, October 1995

Center for Nonlinear Studies, Los Alamos, NM, September 1995

Applied Math Department University of Colorado, Boulder, CO, March 1995

Computational Science Graduate Fellowship Conference, Minneapolis, MN, August 1993